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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,309	01/17/2002	Masashi Ito	20911-06648	8387

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EXAMINER

HARPER, V PAUL

ART UNIT

PAPER NUMBER

2654

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,309

Applicant(s)

ITO ET AL.

Examiner

V. Paul Harper

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-23 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 and 9-16 is/are allowed.
- 6) ☒ Claim(s) 1-4,17-23,25-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-4 and 17-20 are lack sufficient antecedent basis.

Claims 1-3 recite the limitation "said input signal": in claim 1, lines 10 and 18;
claim 2, line 4; claim 3, line 5.

Claims 17-19 recite the limitation "said input signal": in claim 17, lines 12 and 17;
claim 18, line 4; claim 19, line 4.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The Examiner directs the Applicant to the following article: "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility"
(http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf),
hereinafter referred to as 101Guidelines, which is referred to in the following discussion.

2. Claims 1-4, 17-23, 25-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 1, this is a claim to processes that does nothing more than solve mathematical problems or manipulate abstract ideas or concepts. "If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Benson, 409 U.S. at 71-72, 175 USPQ at 676. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process" (101Guidelines p. 58). In this case, the "input signal" is processed by a series of mathematical operations and with no indication that the input signal represents physical objects or activities to achieve a practical application (MPEP 2100-15-17). The Examiner suggests that this might be corrected if the term "input signal" were replaced by "input sound signal."

Regarding claims 17 and 21, these are claims to computer-related nonstatutory subject matter. In particular, it is "functionally descriptive material" i.e., a computer program which imparts functionality when employed as a computer component (101Guidelines, p. 50), which is nonstatutory when claimed as descriptive material (i.e., as a program). The Examiner notes that when functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.

Allowable Subject Matter

3. Claims 5-7 and 9-16 are allowed.

It is noted that the closest prior art of record, Tolonen ("Methods for Separation of Harmonic Sound Sources using Sinusoidal Modeling" AES 106th Convention, May 1999), teaches the grouping of sound events into streams, but Tolonen does not teach performing instantaneous encoding based on said spectrum to determine local features parameters including frequencies, amplitudes and time variations thereof of the center frequencies of said candidate points and performing a harmonic calculation layer for grouping the frequency component candidate points having a same harmonic structure that is determined by the local feature parameters including the frequency and its time variation rate of frequency component candidate points, and then calculating a fundamental frequency of the harmonic structure, variations of the fundamental frequency, harmonics contained in the harmonic structure, and variations of the harmonics. Thus, independent claim 5 is allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement for Reasons of Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/01/05

V. Paul Harper
Patent Examiner
Art Unit 2654

